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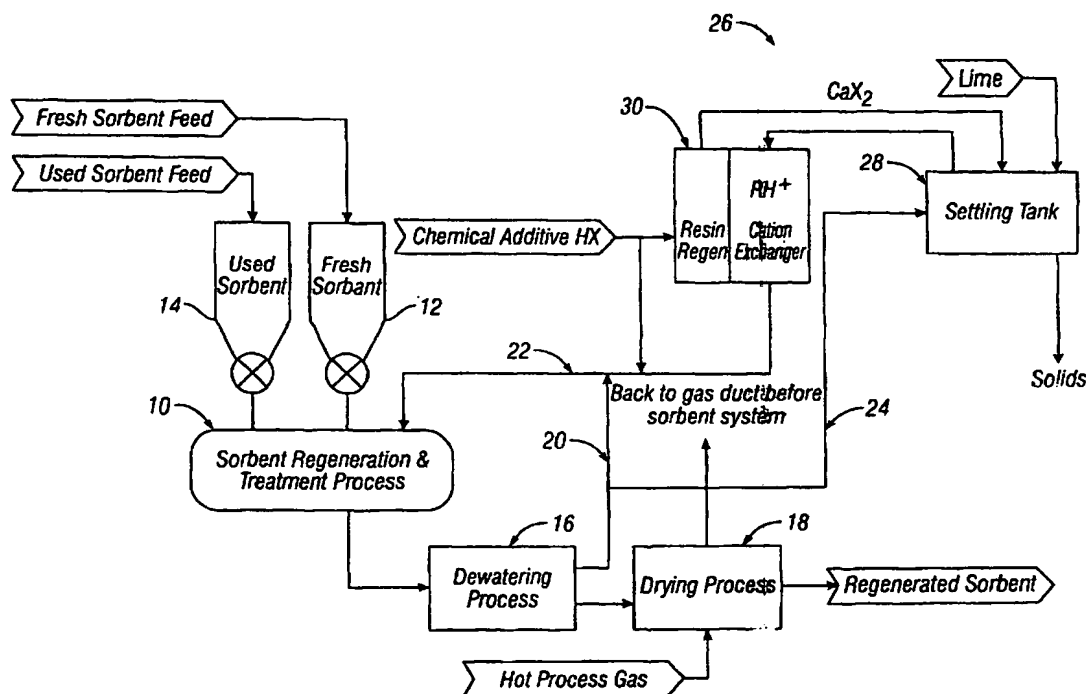
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[Continued on next page]

(54) Title: PROCESS FOR REGENERATING A SPENT SORBENT



(57) Abstract: A method and apparatus is provided for regenerating a sorbent (12,14) that has been poisoned by components derived from flue gas. The sorbent is treated with an agent (10) to remove poisoning components and introduce a promoting agent into the sorbent (22). The method and apparatus can also be used to enhance the effectiveness of a new sorbent (18).



GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/12828

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : B01J 20/34, 38/48, 38/60, 38/62 US CL : 502/22, 27, 28 According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 502/22, 27, 28 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X, P — Y, P	US 6,579,507 B2 (PAHLMAN et al) 17 June 2003 (17.06.2003), column 10, lines 39-67; column 40, lines 32-67.	1-3,11-14,17-22,26-32,36-38,42-48,55-58, and 62-69 ----- 4-10,15,16,23-25,33-35,39-41,49-51, and 59-61		
X	US 6,475,451 B1 (LEPPIN et al) 05 November 2002 (05.11.2002), see abstract.	43-48		
A	US 5,827,352 (ALTMAN et al) 27 October 1998 (27.10.1998), see abstract and entire patent.	1-69		
Y	US 5,480,619 (JOHNSON et al) 02 January 1996 (02.01.1996), see abstract, col . 4, lines 30-35.	7-10, 15,16,23-25,33-35,39-41,49-51 and 59-61		
Y	US 4,196,173 (deJong et al.) 01 April 1980 (01.04.1980), see abstract.	4-6		
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed </td> <td style="width: 50%; vertical-align: top;"> "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family </td> </tr> </table>			* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer Jonas N. Strickland Telephone No. 571-272-1700 <i>[Signature]</i>		

INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

EAST, WEST search terms: sorbent, regeneration, mercury, acid, water, solvent, solution, liquid, reactivation